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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/609,190	06/27/2003	Tajul Arosh Baroky	70030981-1	7614
57299	7590	03/09/2007	EXAMINER	
AVAGO TECHNOLOGIES, LTD. P.O. BOX 1920 DENVER, CO 80201-1920			ROY, SIKHA	
		ART UNIT	PAPER NUMBER	2879

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/09/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

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Office Action Summary	Application No.	Applicant(s)	
	10/609,190	BAROKY ET AL.	
	Examiner	Art Unit	
	Sikha Roy	2879	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 05 December 2006.
 2a) This action is **FINAL**. 2b) This action is non-final.
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1,2,4,6-11,13-23,25 and 32-38 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
 5) Claim(s) 32 is/are allowed.
 6) Claim(s) 1,2,4,6-11,13-23,25 and 33-38 is/are rejected.
 7) Claim(s) _____ is/are objected to.
 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
 10) The drawing(s) filed on 27 June 2003 is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>0107</u> . | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

The Amendment, filed on December 5, 2006 has been entered and acknowledged by the Examiner.

New claims 33-38 have been entered.

Claims 1,2,4,6-11,13-23,25 and 32-38 are pending in the instant application.

Drawings

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, 'the temperature control device' as claimed in claim 34 must be shown or the feature canceled from the claim. No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New

Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1,2,4,6-11,13-23 and 25 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 1 the limitation reciting 'wherein d_{90} refers to a size at which 90 volume percent of the particles are smaller the mean particle diameter' is considered vague and indefinite and thus renders the claim indefinite. It is not clear whether 'size' is meant to refer to the diameter of the phosphor particles or the composition comprising the phosphor particles. The disclosure (page 15) also fails to explain d_{90} . If d_{90} refers to the diameter of 30 to 45 micrometers of phosphor particles, then it is not clear how does it correlate to 90 volume percent of phosphor particles having smaller than the mean particle diameter of 13 to 20 micrometer. Proper clarification is required.

Claims 2,4,6-11,13-23 and 25 are rejected because of their dependency status from claim 1.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 33-38 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 6,504,301 to Lowery, and further in view of U.S. Patent 6,791,150 to Takagi.

Regarding claim 33 Lowery discloses (Fig. 2 column 4 lines 14-45, column 6 lines 20-25) a light emitting device comprising a laser diode 22 (column 1 lines 45-50, GaN based diodes are known in the art as laser diodes), a phosphor composition 52 positioned to receive light from the diode the phosphor composition is capable of absorbing blue light from the diode and emitting light at a longer wavelength.

Lowery is silent about the light emitting device comprising a driver circuit operating the laser diode in a pulse or continuous wave mode.

Takagi in same field of endeavor discloses (Fig2A column 9 lines 1-35) a driver circuit 50 which provides current I_m in a pulse mode and thus operates a laser diode 11, converting an electric signal to optical signal.

Therefore it would have been obvious to one of ordinary skill in the art at the time of invention to include a drive circuit providing current in pulse mode for operating the laser diode of Lowery as taught by Takagi for converting electric signal to optical signal for a display.

Regarding claim 34 Takagi discloses the device further comprises a temperature controlling thermoelectric semiconductor 23.

Regarding claim 35 Lowery discloses (Fig. 2 column 4 lines 31-33, column 6 lines 6-10) the light emitting device comprising a base 30, a casing wall 32 joined to the base at a first end of the casing wall and a transparent cap 52 (fluorescent plate) coated with phosphor composition joined to the casing wall at the second end.

Regarding claim 36 Lowery further discloses (column 6 lines 54-63) a lens 54 positioned adjacent to the transparent cap to direct light from the device.

Regarding claim 37, Lowery discloses the claimed invention except for the limitation of the lens being planar. It has been held that a change in shape is generally recognized as being within the level of ordinary skill in the art. It would have been obvious to one having ordinary skill in the art to include a planar lens instead of a dome lens in the device of Lowery, since such a modification would have involve a mere change in the shape of a component.

Regarding claim 38 Lowery discloses the lens being a dome lens.

Allowable Subject Matter

Claim 32 is allowed over the prior art of record.

The following is an examiner's statement of reasons for allowance:

Regarding claim 32 the prior art of record neither teaches nor suggests the light emitting device with all the limitations as claimed and particularly the phosphor composition consisting of a first type of phosphor consisting of ZnS: Mn²⁺ and a second type of particles.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. U.S. Patent 6,653,765 to Levinson et al. discloses a light source with laser diodes with GaN-based epitaxial structures having planar lens.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sikha Roy whose telephone number is (571) 272-2463. The examiner can normally be reached on Monday-Friday 8:00 a.m. – 4:30 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimeshkumar D. Patel can be reached on (571) 272-2457. The fax phone number for the organization is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Sikha Roy

Sikha Roy
Patent Examiner
Art Unit 2879